

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027188**Date Inspected:** 15-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai**CWI Name:** Chen Xi**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector R. Hernandez was present during the time noted above and conducted observations relative to the work being performed.

The QA Inspector randomly observed the following work in progress:

Bay Number 1

Performed verification VT for the component(s) and corresponding welds for component on OBG barrier rail assemblies listed as E2-SB1C-001 for welds 001~179, E2-SB1-007 for welds 001~179, E2-SB1-012 for welds 001~179, E2-SB5-001 for welds 001~179, E2-SB5-002 for welds 001~179, E2-SB1D-009 for welds 001~179, E2-SB1D-011 for welds 001~179, E2-SB11-001 for welds 001~179, . E2-SB10-001 for welds 001~179, E2-SB10-002 for welds 001~179, E2-SB4-002 for welds 001~179. This QA inspector signed green tag #14814.

This QA inspector performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. All components were as listed on NWIT notification no.(s) 06959. The member(s) is/are identified as OBG Barrier Rail assemblies. The weld designations reviewed are as follows:

1. E2-SB1-003-019, 050, 081.
2. E2-SB5-011-050, 019, 081.
3. E2-SB5-005-019, 050, 081.

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4. E2-SB2-003-019, 050, 081.
5. E2-SB1D-016-081, 019, 050.
6. E2-SB1D-015-019, 050, 081.
7. E2-SB1D-012-081, 019, 050.
8. E2-SB1-010-050, 019, 081.
9. E2-SB1-004-050, 019, 081.

### Bay Number 2

FCAW welding of complete joint penetration root pass weld joint(s) located on lift 14 OBG floor beam identified as FB3316-001 weld number(s) 018 & 019. Welder is identified as welder no. 068554. The welding variables recorded by ZPMC QC identified as Chen Xi appeared to comply with applicable WPS(s) WPS-B-T-2232-TC-U4b-F.

FCAW welding of complete joint penetration root pass weld joint(s) located on lift 14 OBG floor beam identified as FB3316-001 weld number(s) 016 & 017. Welder is identified as welder no. 067877. The welding variables recorded by ZPMC QC identified as Chen Xi appeared to comply with applicable WPS(s) WPS-B-T-2232-TC-U4b-F.

FCAW welding of complete joint penetration root pass weld joint(s) located on lift 14 OBG floor beam assembly identified as FB3320-001 weld number(s) 045 & 046. Welder is identified as welder no. 066736. The welding variables recorded by ZPMC QC identified as Chen Xi appeared to comply with applicable WPS-B-T-2232-TC-U4b-F.

FCAW welding of complete joint penetration root pass weld joint(s) located on lift 14 OBG floor beam assembly identified as FB3343-001 weld number(s) 016. Welder(s) are identified as welder no. 068554, 067877, 066236, 045280. The welding variables recorded by ZPMC QC identified as Chen Xi appeared to comply with applicable WPS(s) WPS-B-T-2231-TC-U5-F-2. Note: multiple welders used on a single to minimize weld distortion.

FCAW welding of complete joint penetration root pass weld joint(s) located on lift 14 OBG floor beam assembly identified as FB3343-001 weld number(s) 016. Welder(s) are identified as welder no. 068554, 067877, 066236, 045280. The welding variables recorded by ZPMC QC identified as Chen Xi appeared to comply with applicable WPS(s) WPS-B-T-2231-TC-U5-F-2. Note: multiple welders used on a single to minimize weld distortion.

### Bay Number 3

ZPMC personnel heat straightening Orthotropic Box Girder (OBG) floor beam member identified as FB3288-001. Distortion appeared to be caused by welding. ZPMC Quality Control (QC) inspector identified as Mr. Chen Xi was present to monitor the heat straightening process. The heat straightening appeared to comply with Heat Straightening Report (HSR) no. HSR1-9588.

This QA inspector performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. All components were as listed on NWIT notification no.(s) 06967. The member(s) is/are identified as OBG Barrier Rail assemblies. The weld

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designations reviewed are as follows:

1. E5-SB1-007-019, 050, 081.
2. E5-SB1-004-019, 050, 081.
3. E5-SB1-005-019, 050, 081.
4. E5-SB1-006-019, 050, 081.
5. E5-SB1-011-019, 050, 081.
6. E5-SB1-013-019, 050, 081.
7. E5-SB1-014-019, 050, 081.
8. E5-SB1-032-019, 050, 081.
9. E5-SB5-001-019, 050, 081.

FCAW welding of fillet weld joint(s) located on lift 14 OBG longitudinal diaphragm assembly identified as LD3040-001 weld number(s) 014~021, 030~033, and 024~027. Welder is identified as welder no. 044830. The welding variables recorded by ZPMC QC identified as Chen Xi appeared to comply with applicable WPS(s) WPS-B-T-2132-3.

Bay Number 4

ZPMC personnel heat straightening Orthotropic Box Girder (OBG) sub assembly member identified as SA3360-001. Distortion appeared to be caused by welding. ZPMC Quality Control (QC) inspector identified as Mr. Chen Xi was present to monitor the heat straightening process. The heat straightening appeared to comply with Heat Straightening Report (HSR) no. HSR1-9618.

ZPMC personnel heat straightening Orthotropic Box Girder (OBG) sub assembly member identified as SA3358-001. Distortion appeared to be caused by welding. ZPMC Quality Control (QC) inspector identified as Mr. Chen Xi was present to monitor the heat straightening process. The heat straightening appeared to comply with Heat Straightening Report (HSR) no. HSR1-9617.

Unless otherwise noted above all items observed on this day appeared to be in general compliance with the applicable contract documents

### Summary of Conversations:

Pertinent conversations are included in the body of the report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 1500-0042-02372, who represents the Office of Structural Materials for your project.

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**Inspected By:** Hernandez,Rene

Quality Assurance Inspector

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**Reviewed By:**      Levell,Bill

QA Reviewer